IN THE CLAIMS

1. (Previously Presented) A data storage medium, comprising:

a data layer and a substrate layer comprising a blend of poly(arylene ether) resin and poly(alkenyl aromatic) resin;

wherein the substrate layer comprises a surface comprising lands and grooves; and

wherein the lands and grooves comprise a pitch of about 0.05 to about 0.7 micrometer.

2. (Original) The data storage medium of claim 1, wherein the lands have a width of about 10 to about 200 nanometers.

3. (Original) The data storage medium of claim 1, wherein the lands have a height of about 10 to about 100 nanometers.

4. (Original) The data storage medium of claim 1, wherein the grooves have a width of about 10 to about 200 nanometers.

5. (Original) The data storage medium of claim 1, wherein the grooves have a height of about 10 to about 100 nanometers.

6. (Original) The data storage medium of claim 1, wherein the substrate layer has a thickness of about 0.2 millimeter to about 2.5 millimeters.

7. (Original) The data storage medium of claim 1, wherein the substrate layer has a land and groove replication of greater than or equal to about 90 percent.

8. (Original) The data storage medium of claim 1, wherein the substrate layer is prepared by injection molding the blend at a melt temperature of about 330 to about 370°C into a mold having a mold temperature of about 90 to about 130°C and a clamp tonnage of greater than or equal to about 12 tons.

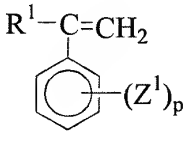
9. (Original) The data storage medium of claim 1, wherein the blend has a glass transition temperature greater than or equal to about 120°C.

10. (Original) The data storage medium of claim 1, wherein the blend is substantially free of visible particulate impurities.

11. (Original) The data storage medium of claim 1, wherein the blend is substantially free of particulate impurities greater than about 15 micrometers in size.

12. (Original) The data storage medium of claim 1, wherein the blend is substantially free of particulate impurities having sizes greater than or equal to about 5 percent of the narrowest thickness of the substrate layer.

13. (Original) The data storage medium of claim 1, wherein the poly(alkenyl aromatic) contains at least 25 percent by weight of structural units derived from an alkenyl aromatic monomer of the formula



wherein R^1 is hydrogen, C_1-C_8 alkyl, or halogen; Z^1 is vinyl, halogen or C_1-C_8 alkyl; and p is 0 to 5.

14. (Original) The data storage medium of claim 1, wherein the poly(alkenyl aromatic) is atactic crystal polystyrene.

15. (Cancelled)

16. (Previously Presented) The data storage medium of claim 1, wherein data on the data layer can be read using a laser having a wavelength of less than about 700 nanometers and a numerical aperture lens of greater than or equal to about 0.6.

17. (Previously Presented) The data storage medium of claim 1, wherein data on the data layer can be read using a laser having a wavelength of less than about 420 nanometers and a numerical aperture lens of greater than or equal to about 0.8.

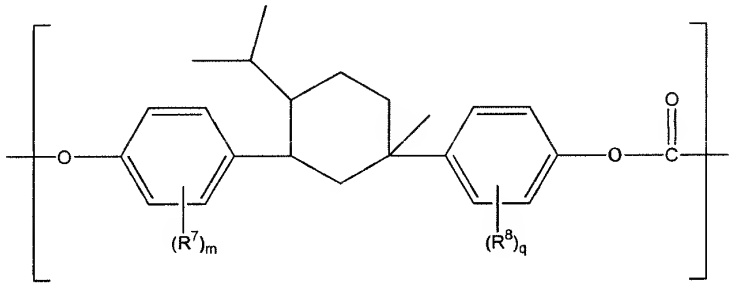
18. (Previously Presented) The data storage medium of claim 1, wherein the data layer comprises metal oxides, silicone oxide, rare earth element-transition metal alloys, nickel, cobalt, chromium, tantalum, platinum, terbium, gadolinium, iron, boron, organic dyes, inorganic phase change compounds, phase change chalcogenide alloy, and compositions comprising one or more of the foregoing.

19. (Previously Presented) The data storage medium of claim 1, further comprising an optical layer disposed on the data layer opposite to the substrate layer, wherein the optical layer comprises a polycarbonate or a silicone hard coat.

20. (Original) The data storage medium of claim 19, wherein the optical layer has a thickness of about 25 micrometers to about 0.6 millimeters.

21. (Original) The data storage medium of claim 19, wherein the optical layer has a thickness of about 50 to about 120 micrometers.

22. (Original) The data storage medium of claim 19, wherein the optical layer comprises a polycarbonate comprising at least one structural unit of:



wherein each occurrence of R^7 and R^8 is independently selected from the group consisting of C_1-C_6 alkyl and hydrogen; m is an integer of 1 to about 4; and q is an integer of 1 to about 4.

23. (Original) The data storage medium of claim 19, wherein the polycarbonate is derived from 1,3-bis(4-hydroxyphenyl)menthane.

24. (Original) The data storage medium of claim 19, wherein the optical layer further comprises a polystyrene.

25. (Original) The data storage medium of claim 19, wherein the polycarbonate is derived from bisphenol-A.

26. (Original) The data storage medium of claim 19, wherein the polycarbonate is a copolymer derived from bisphenol-A and 1,3-bis(4-hydroxyphenyl)menthane.

27. (Original) The data storage medium of claim 19, wherein the data storage medium exhibits a radial tilt change value after 96 hours at 80°C of less than or equal to 0.5 degree at a radius of 55 millimeters.

28. (Original) The data storage medium of claim 19, wherein the medium exhibits a change in radial tilt value of less than or equal to about 0.35 degree measured at a radius of 55 millimeters after 10 hours in a 90 percent relative humidity environment.

29. (Original) The data storage medium of claim 19, further comprising a reflective layer disposed between the substrate and the data layer.

30. (Original) The data storage medium of 29, wherein the reflective layer is aluminum, silver, gold, titanium, alloys, or a composition comprising one or more of the foregoing materials.

31. (Original) The data storage medium of claim 19, further comprising a high modulus layer disposed on the optical layer opposite to the data layer.

32. (Original) The data storage medium of claim 31, wherein the high modulus layer comprises a copolycarbonate ester or a silicone hard coat.

33. (Previously Presented) A data storage medium, comprising:

a substrate layer comprising a blend of poly(arylene ether) resin and polystyrene resin in a weight ratio of about 40:60 to about 60:40;

a data layer disposed on the substrate layer; and

an optical layer disposed on the data layer opposite to the substrate, wherein the optical layer comprises 1,3-bis(4-hydroxyphenyl)menthane polycarbonate or bisphenol-A polycarbonate;

wherein the data storage medium exhibits a radial tilt change value after 96 hours at 80°C of less than or equal to 0.35 degree at a radius of 55 millimeters; and

wherein the blend is substantially free of visible particulate impurities.

34. (Cancelled)

35. (Original) The data storage medium of claim 33, wherein the data layer comprises a phase-change chalcogenide alloy.

36. (Original) The data storage medium of claim 35, wherein data on the data layer can be read using a laser having a wavelength of less than about 410 nm and a lens numerical aperture of greater than about 0.8.

37. (Original) The data storage medium of claim 36, wherein the data storage medium has a recording capacity of greater than about 22 gigabytes and a transfer speed of greater than about 35 megabytes per second.

38. (Previously Presented) A data storage medium, comprising:

a substrate layer comprising a blend of poly(arylene ether) resin and poly(alkenyl aromatic) resin in a weight ratio of about 40:60 to about 60:40, wherein the substrate layer comprises a surface comprising lands and grooves and wherein the lands and grooves comprise a pitch of about 0.2 to about 0.4 micrometer;

a data layer disposed on the substrate layer; and

an optical layer disposed on the data layer opposite to the substrate, wherein the optical layer comprises 1,3-bis(4-hydroxyphenyl)menthane polycarbonate or bisphenol-A polycarbonate.

39. (Original) The data storage medium of claim 38, wherein the blend is substantially free of visible particulate impurities.

40. (Original) The data storage medium of 38, wherein the data storage medium exhibits a radial tilt change value after 96 hours at 80°C of less than or equal to 0.35 degree at a radius of 55 millimeters.

41. (Original) The data storage medium of 38, wherein the substrate layer has a land and groove replication of greater than or equal to about 95 percent.

42. (Previously Presented) A data storage medium, comprising:

a substrate layer comprising a blend of poly(arylene ether) resin and poly(alkenyl aromatic) resin; and

a data layer disposed on the substrate layer,

wherein the substrate layer comprises a surface comprising lands and grooves of a dimension wherein data on the data layer is able to be read using a laser having a wavelength of less than about 420 nanometers and a lens having a numerical aperture greater than about 0.8; and wherein the blend is substantially free of visible particulate impurities.

43. (Cancelled)

44. (Original) A data storage medium, comprising:

a substrate layer comprising a blend of poly(arylene ether) resin and poly(alkenyl aromatic) resin;

a data layer disposed over the substrate layer; and

an optical layer disposed over the data layer opposite to the substrate layer;

wherein the substrate layer comprises a surface comprising lands and grooves, wherein the lands and grooves comprise a pitch of about 0.275 to about 0.35 micrometer;

wherein the data layer comprises a phase-change chalcogenide alloy, and wherein data on the data layer can be read using a laser having a wavelength of less than about 410 nm and a lens numerical aperture of greater than about 0.8;

wherein the optical layer is about 0.050 to about 0.125 mm thick; and

wherein the data storage medium has a recording capacity of greater than about 25 gigabytes and a transfer speed of greater than about 35 megabytes per second.

45. (Original) The data storage medium of claim 44, wherein the blend is substantially free of visible particulate impurities.